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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,522

10/01/2003

Wayne T. Mansell

1-24391

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05/23/2006

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EXAMINER

BAUTISTA, XIOMARA L

ART UNIT

PAPER NUMBER

2179

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,522

Applicant(s)

MANSELL ET AL.

Examiner

X. L. Bautista

Art Unit

2179

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,9,11-13,20-45 and 47-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,9,11-13,20-45 and 47-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/7/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-50 have been considered but are moot in view of the new ground(s) of rejection.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3, 6, 8, 11-13, 20-25, 27, 28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Littlejohn et al* (US 5,003,000) and *Roth* (US 6,266,060 B1).**

Claims 1, 20:

Littlejohn discloses a control system for a motorized wheelchair (PTV) having a removable and programmable memory to enable a user to operate the PTV. The PTV contains constants for use in an algorithm, which operates the PTV in accordance with the needs of a particular user. Control signals from an input are modified by the algorithm in accordance with the prescription for the particular user. Littlejohn teaches that the prescription is stored in the programmable memory and loaded into the computer. A first processor is used for operating the algorithm and controlling the PTV motors and a second command processor is used for controlling a display panel receiving the inputs and modifying the inputs in accordance with the prescription. A control panel has a display screen and push buttons, the display screen having icons (menu structure) for controlling functions of the wheelchair (abstract; col. 1, lines 57-65; col. 2, lines 39-66; col. 3, lines 7-25). Littlejohn does not teach that the control system has a menu structure that is customizable so that commonly used portions of the menu can be grouped together avoiding frequent navigation through seldom-used portions of the menu. However, Roth discloses a menu management mechanism having an automatic menu arrangement based on a combination of frequency of selection and recency of

selection (abstract; col. 2, lines 26-41). Roth teaches an interface that continuously customizes a menu and that displays menu items that are used more often avoiding the need to frequently navigate through seldom-used objects of the menu (col. 6, lines 51-64; col. 7, lines 57-67; col. 8, lines 1-13, 20-26, 31-42; col. 10, lines 21-37; col. 11, lines 36-65; col. 12, lines 18-21, 65-67; col. 13, lines 1-2, 21-24, 36-37; fig. 2A). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Littlejohn's control system and interface to include Roth's teaching of arranging menu items according to how frequently they are used because as Roth says, users are provided with a flexible and efficient menu arrangement that displays only those items that the user uses more often and with the order of past user selections such that only the most recently or frequently used items will be displayed.

Claims 2 and 3:

See claim 1. Littlejohn/Roth teaches a control system for controlling the operation of a wheelchair and a customizable menu structure having menu selection items that are unique to a particular user of the wheelchair.

Claims 6 and 27:

Roth teaches fixed and variable content menus having customizable and non-customizable menu selection items (col. 6, lines 44-64).

Claims 8 and 28:

See claim 1. Littlejohn teaches a wheelchair having a computer and an attachable/removable programmable memory containing a key code and constants for use in an algorithm for operating the wheelchair; a prescription is stored in the programmable memory and loaded into the computer when the memory is inserted (abstract; col. 2, lines 39-66; figs. 1-3). Littlejohn/Roth teaches a wheelchair having a device for changing a menu structure.

Claim 11:

See claim 1. Littlejohn/Roth teaches customizing settings for controlling the wheelchair components according to the user's preferences and a customizable menu structure (Littlejohn: col. 1, lines 57-65; col. 2, lines 39-66; col. 3, lines 7-25; Roth: col. 7, lines 57; col. 8, lines 1-42).

Claim 12:

See claim 1. Littlejohn teaches wheelchair components such as drive wheel motor, seat actuator and environmental control module (figs. 1-6).

Claim 13:

See claim 12. Littlejohn/Roth teaches a wheelchair having components including actuators and environmental control modules, and a customizable menu structure having menu selection items for controlling functions of the wheelchair according to the user's preferences (Littlejohn: col. 1, lines 57-65; col. 2, lines 39-66;

col. 3, lines 7-25).

Claim 21:

See claim 11. Littlejohn teaches components controlled by a controller (col. 2, lines 39-66; col. 3, lines 55-65; col. 4, lines 8-31).

Claims 22-25:

See claim 1. Littlejohn teaches a wheelchair that has motor driven wheels, a mounted joystick, a control panel having a display and push buttons. Littlejohn explains that the control signals from an input such as a joystick can be modified in accordance to user's preferences (col. 1, lines 57-65; col. 2, lines 39-66; col. 3, lines 7-25). Littlejohn teaches a microprocessor connected to and controls drivers, the drivers being connected to actuators (col. 3, lines 55-58; col. 4, lines 8-26).

Claim 30:

See claim 1. Littlejohn/Roth teaches a control system for controlling the operation of a wheelchair and a customizable menu structure having menu selection items that are unique to a particular user of the wheelchair. Littlejohn teaches a wheelchair control system having a screen display for displaying objects that indicate the state of the wheelchair and the wheelchair's components (abstract; col. 1, lines 57-65; col. 2, lines 39-66; col. 3, lines 7-25); and Roth teaches a configurable menu structure, wherein the menu items have an assigned action message and direct the action message to a target when selected (col. 6, lines 51-64; col. 7, lines

57-67; col. 8, lines 1-13, 20-26, 31-42; col. 10, lines 21-37; col. 11, lines 36-65; col. 12, lines 18-21, 65-67; col. 13, lines 1-2, 21-24, 36-37; fig. 2A).

Claim 31:

See claim 1. Littlejohn/Roth teaches a programmable menu structure that can be rearranged according to preferences of the user (Roth: col. 11, lines 35-67; col. 12, lines 1-67; col. 13, lines 1-53).

5. **Claims 4, 5, 26, 37, 40-45, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Littlejohn/Roth* and *Bergeron et al* (US 6,246,410 B1).**

Claims 4 and 26:

See claim 2. Littlejohn teaches menu selection items in the form of text and icons (figs. 5 and 6), and Roth teaches menu items in the form of text, icons and combination (figs. 3B, 4B, 11, 12). Littlejohn/Roth does not teach that the icons are selectively in the form or text, icons or combination of both. However, Bergeron discloses a method for customizing graphical user interface elements. Bergeron teaches that users may change an icon's label (col. 5, lines 49-61; col. 6, lines 27-63). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Uchida's interface to include Bergeron's teaching of customizing menu items because users are provided with tools for changing the look of menu items in accordance to what the user considers most

appropriate for his taste and/or needs.

Claim 5:

See claim 4. Littlejohn/Roth teaches menu items having menu labels having content that is associated with a particular action to be performed by selecting the item (Roth: figs. 3B, 4B, 11, 12). Bergeron teaches menu labels that may be customized according to user's preferences (col. 5, lines 49-61; col. 6, lines 27-63).

Claims 37, 40 and 41:

See claim 5. Littlejohn/Roth/Bergeron teaches a wheelchair having a menu structure that has menu selection items with customizable labels (col. 5, lines 49-61; col. 6, lines 27-63).

Claim 42:

Bergeron teaches that users may select an alternative name for a menu item (col. 6, lines 27-63).

Claims 43 and 45:

Bergeron teaches that users may drag text labels from a list onto a menu item (col. 6, lines 56-58).

Claim 44:

Bergeron teaches icons that may be selected from a group of available icons (col. 6, lines 43-47).

Claims 47 and 48:

Bergeron teaches functions that are programmably assigned to menu objects (col. 7, lines 33-54).

6. **Claims 9 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Littlejohn/Roth* and *Wakefield, II* (US 6,871,122 B1).**

Claims 9 and 29:

See claim 8. Littlejohn/Roth does not teach an external device in the form of a handheld device. However, Wakefield discloses a method of adjusting parameters of a power wheelchair for a plurality of drive programs for operating the wheelchair, each drive having multiple performance parameters (abstract; col. 2, lines 66-67; col. 3, lines 1-5). Wakefield teaches a handheld device (programmer) that communicates with a controller including a programmed microcontroller for entry of performance parameter values or settings (abstract; col. 3, lines 62-67; col. 4, lines 27-35). Wakefield teaches a configurable menu structure (col. 3, lines 16-33; col. 4, lines 36-67; col. 5, lines 1-10, 26-52; figs. 1-4, 6 and 7). Therefore, it would have been obvious to one ordinarily skilled in the art at the time of invention to modify Littlejohn/Roth's method of configuring the wheelchair to include Wakefield's teaching of using a handheld device to program/configure the wheelchair because of the convenience of carrying a small device that can be taken anywhere and can be

used at any time to change the settings for the operation of the wheelchair or to configure/customize a menu structure.

7. **Claims 32, 33, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Littlejohn/Roth* and *Jobs et al* (US 6,686,938 B1).**

Claim 32:

See claim 1. Roth teaches fixed and variable content menus. Roth teaches an interface object (configure menu item) that opens a fixed menu when selected by a user (fig. 3). Littlejohn/Roth does not teach shortcuts pointing to fixed menu items. However, Jobs teaches menu items that can be customized by the user and icons that provide shortcuts to applications that can be invoked by the user by using an input device (col. 3, lines 61-67). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Littlejohn/Roth's method of configuring a menu structure and presenting menu items to include Job's teaching of providing shortcuts to fixed menus because it facilitates access to menus by avoiding navigation through menus having a large number of items.

Claim 33:

See claim 9. Littlejohn teaches a wheelchair having a computer and an attachable/removable programmable memory containing a key code and constants

for use in an algorithm for operating the wheelchair; a prescription is stored in the programmable memory and loaded into the computer when the memory is inserted (abstract; col. 2, lines 39-66; figs. 1-3). Littlejohn/Roth teaches a wheelchair having a device for programming and changing the menu structure. Littlejohn teaches a display or control panel that is attached to the wheelchair (figs. 1 and 2).

Littlejohn/Roth does not teach that the display is adapted to be attached to the menu structure for programming the menu structure. However, Wakefield teaches a wheelchair having a user interface that is integrated and programmable (figs. 1-3).

Claim 35:

See claim 9. Wakefield teaches a display as a component of a handheld programmer (figs. 1-3).

Claim 36:

See claims 8 and 9. Littlejohn/Roth and Wakefield teach a display is a component of a personal computer programming station.

8. **Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Littlejohn/Roth/Wakefield and *Ulrich et al* (US 6,459,962 B2).**

Claim 34:

Littlejohn illustrates a wheelchair (fig. 1) having a display attached to the

wheelchair. Littlejohn/Roth does not teach a display that mounts on the wheelchair. However, Ulrich discloses a wheelchair having a control system that can be programmed to define a desired dynamic of the vehicle (abstract; col. 1, lines 63-67; col. 2, lines 1-19). Ulrich teaches the wheelchair has a computer, a user interface, and a display. Ulrich explains that the control system has circuitry that is housed in a control box that is integral with the drive unit/gear box or encased in a separate enclosure mounted on the frame (col. 4, lines 23-45, 53-63; col. 5, lines 2-25). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Littlejohn/Roth/Wakefield's wheelchair control system to include a display that mounts on the wheelchair because the display apparatus can be conveniently attached to a support and connected to the wheelchair's computer only when it is needed and then detached whenever is not used anymore or for being upgraded, fixed or for maintenance.

9. Claims 38, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Littlejohn/Roth* and *Rice* (US 5,345,226).

Claims 38 and 49:

See claim 1. Littlejohn/Roth does not teach a menu structure having menu selection items and functions that are programmably assigned to the menu selection items. However, Rice discloses an environmental control system having a user

interface that is programmable and has a menu structure (abstract; col. 1, lines 9-13, 21-28). The system provides a user control with a small number of positions that can be easily operated by any user (col. 2, lines 1-65) and a plurality of modules (col. 3, lines 10-68). Rice teaches functions that can be programmably assigned by the user (col. 11, lines 43-61). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Littlejohn/Roth's wheelchair system to include Rice's teaching of functions that are programmably assigned to the menu selection items because, the user can associate a specific function to an object that more appropriately indicates the selected function, facilitating and speeding the user's selection.

Claim 50:

See claim 1. Littlejohn teaches a power wheelchair having a computer, a programmable memory, motor driven wheels, a control panel having a display, input device (joystick), and control modules (abstract; col. 1, lines 57-68; col. 2, lines 1-19, 39-66; col. 3, lines 1-25, 55-65; col. 4, lines 8-25; col. 5, lines 51-68; col. 9, lines 7-28). Roth teaches a graphical user interface and a menu structure having menu items that can be arranged according to frequency and recency of use.

Littlejohn/Roth does not teach environmental control modules for controlling devices or accessories external to the wheelchair. However, Rice discloses an environmental control system having a user interface that is programmable and has

enhanced features (abstract; col. 6, lines 50-68; col. 11, lines 43-58). Rice teaches modules for controlling and operating the wheelchair (col. 2, lines 1-68; col. 3, lines 1-68; col. 4, lines 1-68) and modules for controlling devices or accessories external to the wheelchair (col. 3, lines 10-68; col. 4, lines 1-68; col. 5, lines 1-68). Therefore, it would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify Littlejohn/Roth's wheelchair control system to include modules to control devices external to the wheelchair because as Rice says, they enhance the lives of disabled people by providing control over a wide variety of devices that are interfaced under a common flexible unified user interface/control scheme that can be customized to accommodate the needs of different users and the changing needs of a single user.

10. **Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Littlejohn/Roth/Rice* and *Bergeron*.**

Claim 39:

See claim 4. Littlejohn/Roth teaches menu selection items having customizable labels (col. 5, lines 49-61; col. 6, lines 27-63).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. *Blades et al* (US 5,420,975) discloses a method for automatic customization of display of menu items based on user selection. *Knoll et al* (US 5,732,368) discloses a motor vehicle having a menu that is tailored according to the user's preferences and selection frequency (col. 4, lines 63-67; col. 5, lines 1-10; col. 6, lines 10-22; col. 11, lines 34-43; col. 12, lines 1-5). *Obradovich et al* (US 2002/0198635) discloses a vehicle having a centralized control system having knobs, switches and buttons to operate the vehicle parts and accessories, and an interface having a multilevel menu that is customizable (abstract; p. 2, par. 0014-0016; p. 6, par. 0080, 0081). *Forest* (US 2005/0231520) discloses systems and methods for the control of devices including appliances by persons lacking normal motor capabilities, and an interactive display method for selecting menu options from a menu in a graphical user interface (abstract; p. 1, par. 0002; p. 11, par. 0141-0143). *Enigk et al* (US 2005/0107925) discloses a method and apparatus for outputting data providing information to the user of a motor vehicle, and a plurality of selectable options determined by a profile that is context dependent (abstract; p. 1, par. 0007, 0008, 0010; p. 2, par. 0012; p. 3, par. 0021, 0022).

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to X. L. Bautista whose telephone number is (571) 272-4132. The examiner can normally be reached on Monday-Thursday 8:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2179

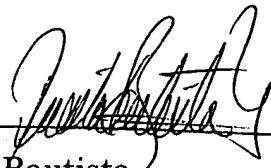
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Electronic Business Center (EBC) at 866-217-9197 (toll-free).



X. L. Bautista
Primary Examiner
Art Unit 2179

xlb

May 16, 2006